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Center for Disease Control

# FOODBORNE OUTBREAKS

JANUARY-JUNE 1971

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HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

# PREFACE

Summarized in this report is information received from state and city health departments, Food and Drug Administration, and other pertinent sources. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the Enteric Diseases Section for confirmation and interpretation.

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## SECTION A.  FOODBORNE OUTBREAKS

This report is a summary of foodborne disease outbreaks in the United States during the 6-month period January-June 1971 compiled from various sources by the Center for Disease Control. In addition, tabular comparisons of the equivalent period in 1970 are presented. As defined in this report, foodborne disease is synonymous with food poisoning and is defined as disease caused by ingestion of a pathogenic organism or noxious agent in a food or water vehicle.

As is readily apparent from the line listing of outbreaks, there is considerable variation in the completeness and depth of reports. In 71 percent of the outbreaks, the etiology was not specified or was unconfirmed. Some health authorities are thorough in reporting; others do not report at all. The data are therefore not representative. Consequently, in our judgement, it is difficult to draw definitive conclusions about patterns of foodborne illnesses from these data. Nevertheless, the predominance of certain etiologies over others and various trends within these etiologies are discernable.

Food poisoning in the United States is grossly underreported. In England and Wales, where food poisoning surveillance has been well developed, 705 outbreaks of food poisoning were recorded in 1967, whereas only 345 incidents of food poisoning were reported to CDC for the same period. The estimated number of episodes for the United States proportionate to the population in England and Wales is over 15,000. This figure serves to emphasize the probable scope of involvement of food poisoning in this country and the gross discrepancy between the expected and actual number of foodborne disease incidents reported.

This report also stresses the need to improve the quality and quantity of primary data so that they can be more useful to all interested persons. To accomplish this, standardization of reported data pertinent to each foodborne outbreak is necessary. Accordingly, a copy of the revised form for summarizing outbreaks is included in this report (Section D). This form was approved for general use at the 1969 meeting of the State and Territorial Epidemiologists. It is intended to serve as a check list of relevant parameters which describe and define an outbreak; it serves as a means by which precise data can be tersely recorded and forwarded to CDC for subsequent analysis, and it has been devised to allow computerization of the data which will allow more timely issuance of surveillance reports.

In this report a distinction has been made between confirmed and unconfirmed outbreaks. Confirmation in almost all instances refers to laboratory support of epidemiologic evidence--a major exception being infectious hepatitis. Unconfirmed outbreaks refer to those outbreaks in which epidemiologic evidence is not supported by sufficient laboratory data.

For each outbreak in which more than one number was reported for the number ill or exposed, the lowest number was always used. The total numbers in the report thus represent minimal numbers.

Episodes of food poisoning reported as individual cases have not been included in the tabulation of data.



The following map (Figure 1) shows the geographic distribution of outbreaks in the United States during January-June 1971. Utilizing all sources of information, there were no reports of outbreaks in 12 states during this period. Similarly, 12 states reported no outbreaks during the comparable period in 1970.

FIGURE 1 NUMBER OF OUTBREAKS OF FOODBORNE ILLNESS BY STATE, JANUARY-JUNE 1971

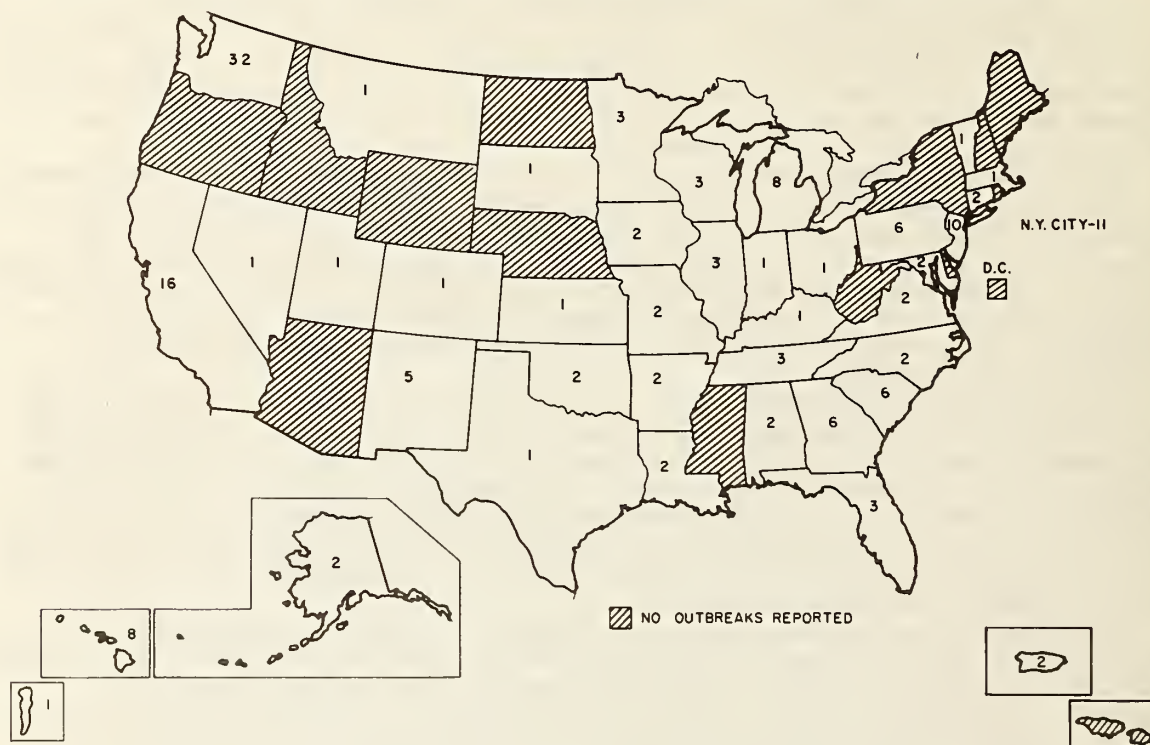


Figure 2 is a pie diagram depicting the major etiologic categories responsible for outbreaks of food poisoning and their relative percents reported to CDC from all sources during the period January-June 1971. There were a total of 159 outbreaks in 1971 compared with 135 for the identical period in 1970. Bacterial etiology predictably accounted for the majority of all reported foodborne outbreaks of known etiology, followed by chemical food poisoning. In 28.5 percent of outbreaks, no etiology could be ascribed.

**FIGURE 2**      **FOODBORNE DISEASE OUTBREAKS (CONFIRMED AND UNCONFIRMED), BY CAUSATIVE ORGANISM, UNITED STATES, JANUARY - JUNE 1971**

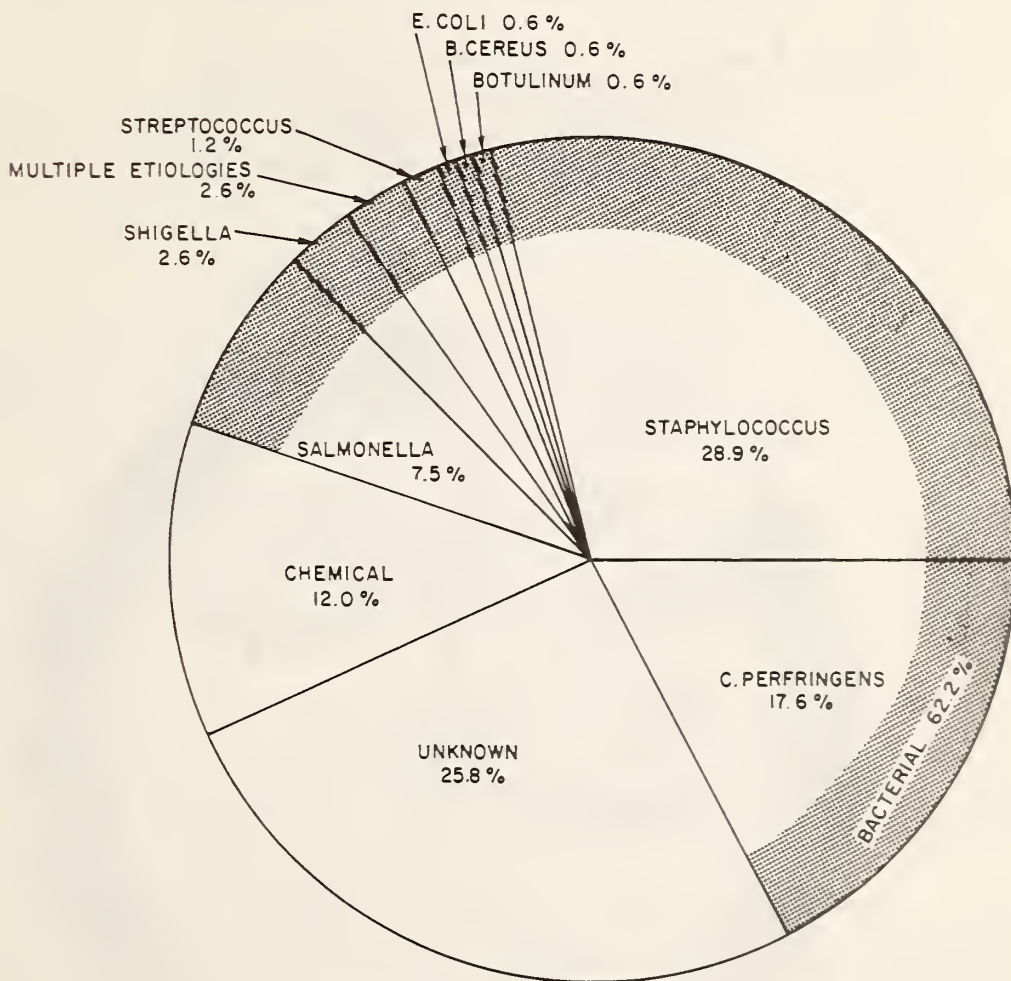


Figure 3 is a pie diagram illustrating the relative percent of individuals involved in the major etiologic categories of food poisoning for January-June 1971. During this period, a total of 5,256 individuals developed food poisoning compared with 6,430 during the same period in 1970. More than 80 percent of individuals experienced food poisoning of bacterial etiology. Clostridium perfringens food poisoning affected 28.5 percent of all patients, followed by staphylococcal gastroenteritis (21.6%), shigellosis (13.4%), beta hemolytic streptococcal pharyngitis (9.6%), and salmonellosis (8.4%), and 12.4 percent of the cases were due to food poisoning of unknown etiology. The large percentage of cases of streptococcal pharyngitis resulted from a single outbreak in Hawaii involving 498 persons. The remaining bacterial etiologies (C. botulinum, B. cereus, enterococci, and E. coli) affected less than 4 percent of all patients. Chemical food poisoning involved only 2.9 percent of all patients.

**FIGURE 3** INDIVIDUALS INVOLVED IN FOODBORNE DISEASE OUTBREAKS (CONFIRMED AND UNCONFIRMED), BY CAUSATIVE ORGANISM, UNITED STATES, JANUARY-JUNE 1971

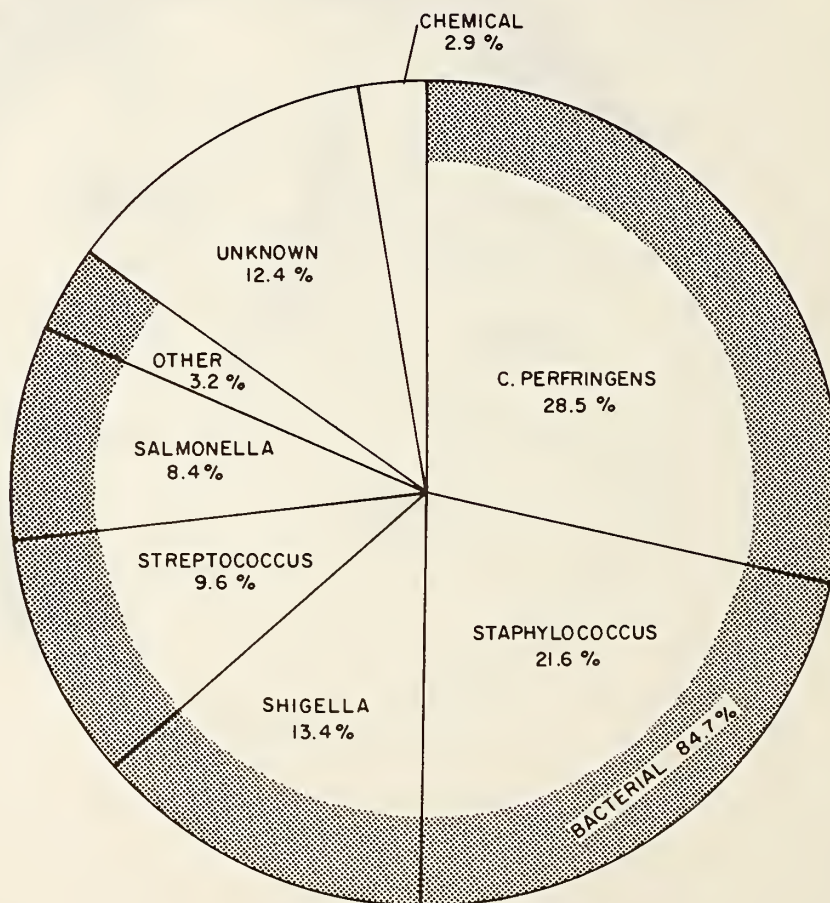




Table 1 lists the sources which initially reported outbreaks to CDC. The category, "Department of Health," includes monthly reports of EIS officers located at state and local health departments. Of the 161 outbreaks recorded for the first 6 months of 1971, 143 (89 percent) emanated from state, local, or territorial health departments.

Table 2 indicates the number of outbreaks reported directly by state, local and territorial health departments for the first 6 months of 1970 and 1971. The two health departments contributing the most reports for the first 6 months of 1971 were Washington State (20 percent) and California (10 percent). In the corresponding period in 1970, the two leading health departments were Washington (21 percent) and California (8 percent). In both 1970 and 1971, 12 state health departments did not report. These figures in no way indicate the prevalence of foodborne disease in the respective areas, but rather reflect the interest of the various health departments in national reporting.

Table 3 records the number of confirmed, unconfirmed, and total outbreaks and cases by etiology and the percentage of confirmed and unconfirmed outbreaks and cases.

Table 4 compares the 1970 and 1971 data. During the first 6 months of 1971, staphylococcus accounted for approximately one-fifth of all patients and one-fourth of all outbreaks. In the corresponding period in 1970, staphylococcus caused one-fourth of the outbreaks and affected one-seventh of all patients. Clostridium perfringens food poisoning was the second most commonly reported etiology representing 17 percent of total outbreaks and 52 percent of all patients. In 1970, the respective figures were 18 percent and 45 percent. Salmonella was in third place causing approximately 8 percent of reported outbreaks and cases. This corresponds to 12 percent for 1970. For the first half of 1971, the above three etiologies were responsible for 54 percent of all outbreaks and 58.4 percent of all ill individuals, and for 1970, 56 percent and 71 percent respectively. Four outbreaks of shigellosis and one outbreak of streptococcal pharyngitis accounted for 13.4 and 9.5 percent of all individuals, respectively. Considering all etiologies, 5,256 persons suffered from food poisoning during the first half of 1971 and 6,430 during the first half of 1970.

Table 5 lists the median and range of the number of persons involved in all of the confirmed and unconfirmed outbreaks for the first 6 months of 1970 and 1971. In general, for both years outbreaks of staphylococcus, Trichinella spiralis, chemical, and unknown etiology involved small groups of persons (< 6). Of interest, the median number of persons involved in a foodborne outbreak considering all etiologies declined from 1968 to 1970 and remained the same in 1971--9 for 1968, 7 for 1969, 6 for 1970, and 6 for 1971.

Table 6 lists the median attack rate and range of attack rates by specific etiology. Attack rates were exceedingly high (> 70 percent) for staphylococcus, Bacillus cereus, Group D streptococcus, heavy metal, fish toxin, other chemical, and unknown etiology food poisoning; moderately high (> 50 percent) for C. perfringens, salmonella, shigella, and Chinese restaurant syndrome (MSG) food poisoning. These attack rates may be inordinately high because of an underestimation of the number at risk given in report forms.

Table 7 categorizes the total of confirmed and unconfirmed outbreaks by the number of cases reported and by etiology. During the first 6 months of 1971, 63 percent of all outbreaks involved groups of 10 or less compared with 53 percent in 1970. Only one reported outbreak in 1970 (January-June 1970) involved more than 1,000 people, while none occurred for the comparable period in 1971.

Table 8 lists the vehicles of infection by specific etiology. The four were commonly incriminated vehicles in decreasing order of frequency were beef, pork, fowl, and fish. There were three outbreaks related to milk and none related to water. These frequencies underscore the existence of tighter control measures insuring the wholesomeness of both milk, which is usually pasteurized, and water, which is usually chlorinated.

Table 9 delineates the various places where improper food handling occurred which allowed the reported outbreaks to materialize. The heading, "food processing establishments," refers to the place or site of improper food handling in preparation for marketing. The heading, "food service establishments," refers to the place

or site of improper food handling that occurs during food processing in a commercial establishment for public consumption in contradistinction to the heading, "homes," which refers to mishandled food in the home itself. The column, "unknown-unspecified," includes those outbreaks reported with insufficient information which precluded specific classification. During the first 6 months of 1971, 30 percent of the vehicles were improperly handled during processing in a commercial eating place, while 10 percent were improperly handled in preparation for marketing. This is in contrast to 28 percent and 8 percent respectively for 1970. The homemaker was culpable 13 percent of the time in 1971, compared with 11 percent in 1970. Unfortunately, the site of improper food handling could not be determined 47 percent of the time in 1971 and in 51 percent of the outbreaks in 1970.

Table 10 lists the place at which the suspect food was ingested according to specific etiology. It is apparent that the majority of foodborne outbreaks, 67 percent, occurred in homes and restaurants; however, this represented only 29 percent of the total people ill. While food poisoning in schools accounted for 8 percent of the outbreaks, nearly 40 percent of all persons affected were school children. These figures are consistent with those for the previous year. Illness due to C. botulinum and staphylococcus tended to be caused by foods eaten at home and those due to C. perfringens by foods served in public facilities.

Table 11 lists the monthly incidence of all outbreaks by specific etiology. An outbreak is assigned to a particular month according to the date of onset of the first case. Seasonal variation of foodborne illness will be scrutinized in the next issue of this report in order to take advantage of 12 months' data.

Table 1

Initial Reporting Source of Foodborne Illness  
January-June 1971

<u>Number of reports</u>	<u>Reporters</u>	
141	DH	- Department of health, state or local, includes reports of EIS Officers located at state and local health departments
18	FDA & USDA	- Food and Drug Administration and United States Department of Agriculture
159	Total	

Table 2

Outbreaks of Foodborne Illness Reported by  
State, Local, and Territorial Health Departments  
January-June 1970 and 1971

	<u>1970</u>	<u>1971</u>		<u>1970</u>	<u>1971</u>
Alabama	1	2	Missouri	1	2
Alaska	1	2	Montana	2	1
Arizona	0	0	Nebraska	1	0
Arkansas	2	2	Nevada	1	1
California	11	16	New Hampshire	1	0
Colorado	2	1	New Jersey	7	10
Connecticut	3	1	New Mexico	3	5
Delaware	0	0	New York City	2	11
District of Columbia	1	0	New York State	7	0
Florida	4	3	North Carolina	1	2
Georgia	1	6	North Dakota	0	0
Hawaii	5	8	Ohio	0	1
Idaho	2	0	Oklahoma	0	2
Illinois	4	3	Oregon	2	0
Indiana	2	1	Pennsylvania	6	5
Iowa	2	2	Puerto Rico	3	2
Kansas	1	1	Rhode Island	1	0
Kentucky	0	1	South Carolina	1	6
Louisiana	4	2	South Dakota	0	1
Maine	0	0	Tennessee	3	3
Maryland	2	2	Texas	1	1
Massachusetts	2	1	Utah	1	1
Michigan	2	8	Vermont	0	1
Minnesota	5	3	Virginia	2	2
Mississippi	0	0	Washington	28	32
<u>Other</u>					
Virgin Islands	1	0	West Virginia	2	0
Guam and Trust Territories	1	2	Wisconsin	0	3
			Wyoming	0	0

1970 Total 1081971 Total 159

Table 3a

Confirmed and Unconfirmed Foodborne Outbreaks by Bacterial Etiology  
January-June 1971

	Outbreaks			Patients		
	Confirmed #	%*	Total #	Confirmed #	Unconfirmed #	Total #
<u>B. cereus</u>	-	-	1	-	3	3
<u>C. botulinum</u>	-	-	1	-	2	2
<u>C. perfringens</u>	3	6.7	28	106	1,388	1,494
<u>E. coli</u>	-	-	1	-	8	8
Salmonella	12	26.6	-	439	-	439
Shigella	4	8.9	-	704	-	704
Staphylococcus	20	44.5	26	765	367	1,132
Group A streptococcus	1	2.2	-	498	-	498
Group D streptococcus	-	-	1	-	3	3
Multiple etiologies	-	-	4	-	153	153
SUBTOTAL	40	88.9	99	2,512	1,924	4,436

Table 3b

Confirmed and Unconfirmed Foodborne Outbreaks by Nonbacterial Etiology  
January-June 1971

	Outbreaks			Patients		
	Confirmed #	%*	Total #	Confirmed #	Unconfirmed #	Total #
<u>CHEMICAL</u>						
Chinese restaurant syndrome (MSG)	-	-	1	-	7	7
Fish toxin	1	2.2	1	7	28	35
Heavy metal	3	6.7	6	16	12	28
Other chemical	1	2.2	6	61	22	83
UNKNOWN	-	-	41	-	654	654
BACTERIAL SUBTOTAL (From Table 3a)	40	88.9	99	2,512	1,924	4,436
TOTAL (Bacterial and nonbacterial)	45	100.0	159	2,596	2,647	5,243

\*Percent of total confirmed outbreaks by specific etiology.  
 #Percent of total of unconfirmed outbreaks by specific etiology.  
 †Percent of total outbreaks.  
 ‡Percent of persons ill in total confirmed outbreaks.  
 §Percent of persons ill in total of unconfirmed outbreaks.  
 ¶Percent of total persons ill.



Table 4a

Total of Confirmed and Unconfirmed Foodborne Outbreaks by Bacterial Etiology  
January-June 1970 and 1971

	1970				1971			
	Outbreaks		Patients		Outbreaks		Patients	
	#	% <sup>@</sup>	#	% <sup>‡</sup>	#	% <sup>@</sup>	#	% <sup>‡</sup>
<u>B. cereus</u>					1	0.6	3	0.1
<u>C. botulinum</u>	4	2.9	8	0.1	1	0.6	2	0.1
<u>C. perfringens</u>	25	18.5	2,884	44.9	28	17.6	1,494	28.5
<u>E. coli</u>	7	5.2	229*	4.6	1	0.6	8	0.1
Salmonella	17	12.5	765	11.9	12	7.5	439	8.4
Shigella	3	2.2	81	1.3	4	2.6	704	13.4
Staphylococcus	34	25.2	936	14.5	46	28.9	1,132	21.6
Group A streptococcus					1	0.6	498	9.5
Group D streptococcus					1	0.6	3	0.1
Multiple etiologies					4	2.6	153	2.9
<u>V. parahemolyticus</u>	2	1.5	168	2.6				
<u>SUBTOTAL</u>	92	69.0	5,141	79.9	99	62.2	4,436	84.7

\*Four outbreaks of E. coli had an unknown number of cases. In one of these outbreaks several thousand persons were ill. Because of uncertainty about the number of cases, this large outbreak was omitted from these calculations.

Table 4b

Total of Confirmed and Unconfirmed Foodborne Outbreaks by Nonbacterial Etiology  
January-June 1970 and 1971

	1970				1971			
	Outbreaks		Patients		Outbreaks		Patients	
	#	% <sup>@</sup>	#	% <sup>‡</sup>	#	% <sup>@</sup>	#	% <sup>‡</sup>
<u>PARASITIC</u>								
<u>Trichinella spiralis</u>	5	3.7	19	0.3				
<u>VIRAL</u>								
Infectious hepatitis	1	0.8	77	1.2				
<u>CHEMICAL</u>								
Chinese restaurant syndrome (MSG)	1	0.8	2	0.03	1	0.6	7	0.1
Fish toxin					2	1.2	35	0.7
Heavy metal					9	5.7	28	0.5
Other chemical	5	3.7	11	0.2	7	4.5	83	1.6
<u>UNKNOWN</u>	31	23.0	1,180	18.4	41	25.8	654	12.4
<u>BACTERIAL SUBTOTAL</u> (From Table 4a)	92	69.0	5,141	79.9	99	62.2	4,436	84.7
<u>TOTAL (Bacterial and nonbacterial)</u>	133	100.0	6,430	100.0	159	100.0	5,243	100.0

<sup>@</sup>Percent of total outbreaks (bacterial and nonbacterial).

<sup>‡</sup>Percent of persons ill in all outbreaks.

Table 5

Number of Persons Ill in Outbreaks of Foodborne Illness by  
Specific Etiology (confirmed and unconfirmed)  
January-June 1970 and 1971

	1970			1971		
	<u>Median</u>	<u>Range</u>	<u>Number of outbreaks*</u>	<u>Median</u>	<u>Range</u>	<u>Number of outbreaks</u>
<u>BACTERIAL</u>						
<u>B. cereus</u>	-	-	0	3	3-3	1
<u>C. botulinum</u>	2	1-4	4	2	2-2	1
<u>C. perfringens</u>	35	2-689	24	19	2-350	28
<u>E. coli</u>	41+	3-~ 2000	7	8	8-8	1
Salmonella	11	2-336	16	10	2-186	12
Shigella	28	3-50	3	122	21-440	4
Staphylococcus	5	2-318	33	5	1-169	45
Group A streptococcus	-	-	0	498	498-498	1
Group D streptococcus	-	-	0	3	3-3	1
Multiple etiologies	-	-	0	33	12-76	4
<u>V. parahemolyticus</u>	84	4-164	2			
<u>PARASITIC</u>						
<u>Trichinella spiralis</u>	2	2-9	5	-	-	0
<u>VIRAL</u>						
Infectious hepatitis	77	77-77	1	-	-	0
<u>CHEMICAL</u>						
Chinese restaurant syndrome (MSG)	2	2-2	1	7	7-7	1
Fish toxin	-	-	0	18	7-28	2
Heavy metal	-	-	0	2	1-11	9
Other chemical	2	2-3	5	3	1-61	7
Unknown	4	2-350	31	6	1-183	41
Total	6	1-~2000	132	6	1-498	169

\*Excludes those outbreaks not giving adequate information on number of people ill.

Table 6

Median Attack Rate, Range of Attack Rates, and Number of Outbreaks of  
Foodborne Illness by Specific Etiology (confirmed and unconfirmed)  
January-June 1971

	<u>Median attack rate</u>	<u>Range of attack rates</u>	<u>Number of outbreaks</u>
<u>BACTERIAL</u>			
<u>B. cereus</u>	100.0	100.0-100.0	1
<u>C. botulinum</u>	*	*	1
<u>C. perfringens</u>	59.3	7.0-100.0	20
<u>E. coli</u>	36.4	36.4- 36.4	1
Salmonella	57.9	2.9- 87.5	12
Shigella	51.7	16.4- 67.9	4
Staphylococcus	75.0	0.8-100.0	36
Group A streptococcus	25.4	25.4- 25.4	1
Group D streptococcus	100.0	100.0-100.0	1
Multiple etiologies	43.9	24.0- 72.1	4
<u>CHEMICAL</u>			
Chinese restaurant syndrome (MSG)	53.9	53.9- 53.9	1
Fish toxin	82.6	77.8- 87.5	2
Heavy metal	100.0	55.0-100.0	7
Other chemical	85.7	49.2-100.0	6
Unknown	100.0	10.6-100.0	40
Total	56.7	0.8-100.0	159

\*Number of persons at risk was unknown.

Table 7

Number of Persons Ill in Foodborne Disease Outbreaks by  
Specific Etiology (confirmed and unconfirmed)  
January-June 1971  
Selective Comparative Data January- June 1970

	Size of Outbreak							Unk.	Total
	<u>1-3</u>	<u>4-10</u>	<u>11-30</u>	<u>31-100</u>	<u>101-300</u>	<u>301-1000</u>			
<u>BACTERIAL</u>									
<u>B. cereus</u>	1								1
<u>C. botulinum</u>	1								1
<u>C. perfringens</u>	4	7	4	9	3	1			28
<u>E. coli</u>		1							1
Salmonella	1	5	4		2				12
Shigella			1		2	1			4
Staphylococcus	15	17	4	5	4		1		46
Group A streptococcus						1			1
Group D streptococcus	1								1
Multiple etiologies			2	2					4
<u>CHEMICAL</u>									
Chinese restaurant syndrome (MSG)		1							1
Fish toxin		1	1						2
Heavy metal	8		1						9
Other chemical	4	2		1					7
Unknown	11	18	4	5	1				39
Total 1971	47	53	21	22	12	3	1		159
Total 1970	47	25	21	20	13	6			132*

\*In three outbreaks the number ill was not reported; 1 C. perfringens, 1 salmonella and 1 staphylococcus outbreak.



Table 8

Vehicles Associated with Foodborne Illness by Specific Etiology (confirmed and unconfirmed)  
January-June 1971  
Selective Comparative Data January-June 1970

	Beef *	Veal	Pork	Lamb or mutton	Chicken *	Turkey *	Shellfish	Other fish	Other meat	Eggs	Milk	Cheese	Other Dairy	Bakery products	Fruits & vegetables	Chinese food	Multiple vehicles	Water	Other	Unknown	Total
<u>BACTERIAL</u>																					
<u>B. cereus</u>																1					1
<u>C. botulinum</u>																				1	1
<u>C. perfringens</u>	13		1			4		1						1	1	1				6	28
<u>E. coli</u>							1														1
Salmonella	1			1		3		2						1						4	12
Shigella						1									1					2	4
Staphylococcus	5		21	1	2	1	1	2	1	1			1		1	1	1		2	5	46
Group A strep.													1								1
Group D strep.	1																				1
Multiple etiologies	3				1																4
<u>CHEMICAL</u>																					
Chinese restaurant syndrome (MSG)																1					1
Fish toxin							2														2
Heavy metal																			7	2	9
Other chemical	1						1				1			2					2		7
Unknown	6		2			1	3				1				2				5	21	41
Total 1971	30		25	1	3	10	2	11	1	1	2		2	4	5	4	1		16	41	159
Total 1970	29		15	0	6	10	2	6	7	1	3	1	4	8	8	1	9	6	8	20	144

\* - includes some outbreaks due to meat and/or gravy and/or dressing

Table 9

Place Where Food was Mishandled in Foodborne  
Outbreaks Reported by Specific Etiology (confirmed and unconfirmed)  
January-June 1971  
Selective Comparative Data January-June 1970

	<u>Food processing establishments</u>	<u>Food service establishments</u>	<u>Homes</u>	<u>Unknown- Unspecified</u>	<u>Total</u>
<u>BACTERIAL</u>					
<u>B. cereus</u>				1	1
<u>C. botulinum</u>				1	1
<u>C. perfringens</u>		19		9	28
<u>E. coli</u>				1	1
Salmonella		6	3	3	12
Shigella		1		3	4
Staphylococcus	6	16	12	12	46
Group A streptococcus				1	1
Group D streptococcus				1	1
Multiple etiologies		1	2	1	4
<u>CHEMICAL</u>					
Chinese restaurant syndrome (MSG)		1			1
Fish toxin		1		1	2
Heavy metal	6	1		2	9
Other chemical	4	1		2	7
Unknown		1	3	37	41
Total 1971	16	48	20	75	159
Total 1970	11	40	15	69	135

Table 10

Place of Acquisition of Foodborne Illness by  
Specific Etiology ( confirmed and unconfirmed)  
January-June 1971  
Selective Comparative Data January-June 1970

	<u>Restaurant</u>	<u>Delicatessen</u>	<u>Cafeteria</u>	<u>Home</u>	<u>Picnic</u>	<u>School</u>	<u>Church</u>	<u>Camp</u>	<u>Other or Unknown</u>	<u>Total</u>
<u>BACTERIAL</u>										
<u>B. cereus</u>				1						1
<u>C. botulinum</u>				1						1
<u>C. perfringens</u>	10		4	4		5			5	28
<u>E. coli</u>					1					1
Salmonella	4			6					2	12
Shigella	1				2	1				4
Staphylococcus	14	1		17	2	3	1		8	46
Group A streptococcus						1				1
Group D streptococcus				1						1
Multiple etiologies				2			2			4
<u>CHEMICAL</u>										
Chinese restaurant syndrome (MSG)	1									1
Fish toxin				1					1	2
Heavy metal	1	1		6					1	9
Other chemical		1		4					2	7
Unknown	18			15	1	3			4	41
Total 1971	49	3	4	58	6	13	3		23	159
Total 1970	41	2	4	52	2	9		4	21	135
Number of persons ill 1971	832	8	102	675	176	2,054	175		1,221	5,243
Number of persons ill 1970	455	2	98	271	374	2,313	0	368	849	6,430

Table 11

Monthly Occurrence of Outbreak of Foodborne Illness by Specific  
(confirmed and unconfirmed) Etiology  
January-June 1971  
Selective Comparative Data January-June 1970

	1970*			1971							
	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Unknown</u>	<u>Total</u>
<u>BACTERIAL</u>											
<u>B. cereus</u>						1					1
<u>C. botulinum</u>						1					1
<u>C. perfringens</u>				1	8	8	5	4	2		28
<u>E. coli</u>								1			1
Salmonella			3	3		1	1	1	3		12
Shigella			1	1	1			1			4
Staphylococcus	3		1	4	4	5	5	7	15	2	46
Group A streptococcus	1										1
Group D streptococcus				1							1
Multiple etiologies				1	1		1	1			4
<u>CHEMICAL</u>											
Chinese restaurant syndrome (MSG)						1					1
Fish toxin					1				1		2
Heavy metal					1		1	6	1		9
Other chemical				4		1	1	1			7
Unknown			5	8	4	7	6	6	4	1	41
Total 1971	4		10	23	20	25	20	28	26	3	159
Total 1970				17	22	24	18	27	25	2	135

\*These outbreaks were received too late to be included in the 1970 Annual Summary,  
but are included in the January-June 1971 tabulations.



1. Where did the outbreak occur?		2. Date of outbreak: (Date of onset 1st case)	
State _____ (1,2) City or Town _____ County _____		_____ (3-8)	
3. Indicate actual (a) or estimated (e) numbers:	4. History of Exposed Persons:	5. Incubation period (hours):	
Persons exposed _____ (9-11)	No. histories obtained _____ (18-20)	Shortest _____ (40-42) Longest _____ (43-45)	
Persons ill _____ (12-14)	No. persons with symptoms _____ (21-23)	Approx. for majority _____ (46-48)	
Hospitalized _____ (15-16)	Nausea _____ (24-26) Diarrhea _____ (33-35)		
Fatal cases _____ (17)	Vomiting _____ (27-29) Fever _____ (36-38)	6. Duration of Illness (hours):	
	Cramps _____ (30-32) Other, specify _____	Shortest _____ (49-51) Longest _____ (52-54)	
	_____ (39)	Approx. for majority _____ (55-57)	

[illegible]

11 Place where eaten (66)

Restaurant . . . . .	<input type="checkbox"/>	1
Delicatessen . . . . .	<input type="checkbox"/>	2
Cafeteria . . . . .	<input type="checkbox"/>	3
Private Home . . . . .	<input type="checkbox"/>	4
Picnic . . . . .	<input type="checkbox"/>	5
Institution		
School . . . . .	<input type="checkbox"/>	6
Church . . . . .	<input type="checkbox"/>	7
Camp . . . . .	<input type="checkbox"/>	8
Other, specify . . . . .	<input type="checkbox"/>	9

(Over)

# LABORATORY FINDINGS (Include Negative Results)

## 12. Food specimens examined: (67)

Specify by "X" whether food examined was original (eaten at time of outbreak) or check-up (prepared in similar manner but not involved in outbreak)

Item	Orig.	Check up	Findings	
			Qualitative	Quantitative
Example: beef	X		C. perfringens, Hobbs type 10	2X10 <sup>6</sup> /gm

## 13. Environmental specimens examined: (68)

Item	Findings
Example: meat grinder	C. perfringens, Hobbs Type 10

## 14. Specimens from patients examined (stool, vomitus, etc.): (69)

Item	No. Persons	Findings
Example: stool	11	C. perfringens, Hobbs Type 10

## 15. Specimens from food handlers (stool, lesions, etc.): (70)

Item	Findings
Example: lesion	C. perfringens, Hobbs type 10

## 16. Factors contributing to outbreak (check all applicable):

- |   | Yes                        | No                              |
|---|----------------------------|---------------------------------|
| 1. Improper storage or holding temperature . . . . .    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 (71) |
| 2. Inadequate cooking . . . . .                         | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 (72) |
| 3. Contaminated equipment or working surfaces . . . . . | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 (73) |
| 4. Food obtained from unsafe source . . . . .           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 (74) |
| 5. Poor personal hygiene of food handler . . . . .      | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 (75) |
| 6. Other, specify . . . . .                             | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 (76) |

## 17. Etiology: (77, 78)

Pathogen	Suspected	<input type="checkbox"/> 1 (79)
Chemical	Confirmed	<input type="checkbox"/> 2
Other	Unknown	<input type="checkbox"/> 3

18. Remarks: Briefly describe aspects of the investigation not covered above, such as unusual age or sex distribution; unusual circumstances leading to contamination of food, water; epidemic curve; etc. (Attach additional page if necessary)

Name of reporting agency: (80)

Investigating official:

Date of investigation:

NOTE: Epidemic and Laboratory Assistance for the investigation of a foodborne outbreak is available upon request by the State Health Department to the Center for Disease Control, Atlanta, Georgia 30333.

To improve national surveillance, please send a copy of this report to:

Center for Disease Control  
Attn: Enteric Diseases Section, Bacterial Diseases Branch, EP  
Atlanta, Georgia 30333

Submitted copies should include as much information as possible, but the completion of every item is not required.

## Section E - Line Listing of Foodborne Outbreaks

### Explanation of line listing:

Listing is by specific etiology. Under each etiology confirmed outbreaks are listed first in chronological order. Unconfirmed outbreaks are listed next in chronological order, denoted by the prefix "probable" (prob.).

For all instances in which there was any question as to the accuracy of information, a question mark is included.

Onset - the month is followed by the day of the month. In some outbreaks involving continual exposure over a period of time, the onset is expressed as a range between onset of the first and last case.

Lab data - usually refers to cultural confirmation.

P - patient  
V - vehicle  
H - food handler

### Symptoms:

N.- nausea	F - fever
V - vomiting	A - anorexia
C - cramps, abdominal pain	O - other
D - diarrhea	LFT - liver function tests
H - headache	

Reporter - see Table 1 for explanation of abbreviations

### Other symbols and abbreviations:

$\bar{x}$  - mean  
med.- median  
 $\approx$  - approximately

Explanation of code letters in parentheses - (A), (B), (C), (D) - in line listing under column headed "Comment". These letters refer to data presented in Table 9.

- (A) "Food processing establishments" - Site or place of food improperly handled in preparation for marketing.
- (B) "Food service establishments" - Site or place of food improperly handled during food processing in a commercial establishment for public consumption.
- (C) "Homes" - Food mishandled in homes.
- (D) "Unknown-Unspecified" - Information lacking, precluding classification.

## SECTION F

ETIOLOGY	ONSET	REPORTED FROM	VEHICLE	LAB DATA			CLINICAL DATA			REPORTER	COMMENT	
				P. V. H.			# ill	incub.	Duration			
				P.	V.	H.	(at risk)	(hrs.)	of dis. (hrs.)			Symptoms
SECTION F												
<u>BACTERIAL</u>												
<u>BACILLUS CEREUS</u>	3-25	New York City	fried rice	-	+	-	3(3)	12	24	N,V,C,D	DH	Home (D)
<u>CLOSTRIDIUM BOTULINUM</u>												
prob. <u>C. botulinum</u>	3-25	San Francisco, Calif.		-	-	-	2(?)		4 wk	diplopia, dysphagia, dysphonia, weakness	DH	Home (D)
<u>CLOSTRIDIUM PERFRINGENS</u>												
<u>C. perfringens</u>	3-11	Seattle, Wash.	roast beef	+	+	-	4(4)	10	24	D,C,N,V,	DH	Restaurant (
<u>C. perfringens</u>	5-8	Sheboygan Falls, Wisc.	beef & gravy	+	+	-	100(275)	16	24	D,C,	DH	Municipal building-col forms & streptococcal fecalis also isolated from food (B)
<u>C. perfringens</u>	5-27	Atlanta, Ga.	stuffed pepper chili reono	-	+	-	2(?)	9	11		DH	Restaurant (
prob. <u>C. perfringens</u>	1-6	Seattle, Wash.	Chinese food	+	-	-	2(2)	14	24	D,C	DH	Restaurant (
prob. <u>C. perfringens</u>	2-8	Rosewood, Md.	turkey	-	-	-	75(?)	12	24	D,C	DH	School (B)
prob. <u>C. perfringens</u>	2-6	Collingswood, N.J.	roast beef & gravy	-	+	-	12(50)	6	36	D,C,N	DH	Home (B) Streptococcus fecalis also isolated from food
prob. <u>C. perfringens</u>	2-7	Concord, Calif.	beef stew	-	-	-	7(7)	12	24	D,C,V	DH	Cafeteria (B)
prob. <u>C. perfringens</u>	2-7	Owens Mills, Md.	turkey	-	-	-	250(2750)	20	30	D	DH	Hospital (B)
prob. <u>C. perfringens</u>	2-9	Clinton, N.J.		+	-	-	116(612)	12	6	D,C,	DH	School (B)
prob. <u>C. perfringens</u>	2-9	Aberdeen, Wash.	hamburger pizza	-	+	-	5(5)	7		N,C	DH	Home (D)



prob. <u>C. perfringens</u>	2-12	New York City	-	-	-	20 (23)	12	48	C,D,N	DH	Restaurant (B)
prob. <u>C. perfringens</u>	2-18	Seattle, Wash.	-	+	-	2 (2)	12	8	D,C	DH	Fraternity dining hall (D)
prob. <u>C. perfringens</u>	2-25	Las Cruces, N.M.	-	-	-	36 (1023)	12		D,C,N	DH	Cafeteria (B)
prob. <u>C. perfringens</u>	3-4	Albion, Mich.	-	+	-	350 (500)	8	8	D	DH	School (B)
prob. <u>C. perfringens</u>	3-5	Metairie, La.	-	+	-	133 (?)	10		C,D,N,F	DH	School (B)
prob. <u>C. perfringens</u>	3-10	Quincy, Wash.	-	-	-	6 (7)	8	24	C,N,V,D,F	DH	Home (D)
prob. <u>C. perfringens</u>	3-11	Little Rock, Ark.	-	+	-	50 (432)	12	24	D,C,N	DH	Cafeteria (D)
prob. <u>C. perfringens</u>	3-22	Flemington, N.J.	+	-	-	9 (30)	10	24	D,C	DH	Restaurant (B)
prob. <u>C. perfringens</u>	3-24	Oklahoma City, Okla.	+	-	-	68 (998)	10	24	D,C	DH	Nursing home (D)
prob. <u>C. perfringens</u>	3-30	Spartanburg, S.C.	-	-	-	9 (23)	10		N,V,C,D	DH	Cafeteria (B)
prob. <u>C. perfringens</u>	4-17	Raleigh, N.C.	-	-	-	84 (205)		12	D,C,N	DH	Restaurant (D)
prob. <u>C. perfringens</u>	4-20	Wapato, Wash.	+	-	-	14 (200)	13	20	D,C	DH	Home (B)
prob. <u>C. perfringens</u>	4-21	Mojave, Calif.	-	-	-	41 (150)	12	12	D,C	DH	School (D)
prob. <u>C. perfringens</u>	4-24	Atlanta, Ga	-	-	-	3 (?)	10	12		DH	Restaurant (B)
prob. <u>C. perfringens</u>	4-24	San Jose, Calif.	-	-	-	4 (?)	10	48	D,C	DH	Restaurant (D)
prob. <u>C. perfringens</u>	5-15	Cerrillos, N.M.	-	-	-	34 (47)	15	24	D,C	DH	Restaurant (B)
prob. <u>C. perfringens</u>	5-15	Hampton Twp, N.J.	-	-	-	16 (43)	10	18		DH	Home (C)
prob. <u>C. perfringens</u>	5-16	Atlanta, Ga	-	-	-	18 (37)	15	12	D,C,N	FDA	Airplane (B)
prob. <u>C. perfringens</u>	6-6	Sioux Falls, S.D.	-	-	-	15 (19)	14	18	D	DH	Restaurant (B)
prob. <u>C. perfringens</u>	6-20	Richfield, Minn.	-	-	-	37 (165)	12	12	N,V,C,D	DH	Nursing home (B)
<u>ESCHERICHIA COLI</u>											
<u>E. coli</u>	5-31	Indianapolis, Ind. clams	-	+	-	8 (22)	35		D,F,C	DH	Picnic (D)

ETIOLOGY	ONSET	REPORTED FROM	VEHICLE	LAB DATA			CLINICAL DATA			REPORTER	COMMENT	
				P.	V.	H.	# ill (at risk)	incub. period (hrs.)	Duration of dis. (hrs.)			Symptoms
SALMONELLA												
S. schwarzengrund	1-17	Fredericksburg, Va.	turkey salad	+	+	-	30 (65)	24	18	N,V,D,C,F,H, chills	DH	Restaurant (B)
S. infantis	1-24	New York City	broiled salmon or omelet	+	-	+	10 (15)	18	72	D,F,C,N,V	DH	Restaurant (B)
S. san-diego	1-31	Butte, Mont.	turkey?	+	-	+	7 (31)	10	96	N,V,C,D,F	DH	Restaurant (B)
S. enteritidis	3-14	New York City	roast beef	+	+	-	120 (235)	42	72	D,C,N,F,V	DH	Restaurant (B)
S. typhi-murium	4-28	Flint, Mich.	smoked fish	+	+	+	28 (37)	24	96	N,V,C,F,D	DH	Home (C)
S. infantis	5-8	New Orleans, La.		+	-	-	21 (36)	18	36	C,D,F,N,V	DH	Home (C)
Salmonella (type unspecified)	6-7	Florissant, Mo.		+	-	-	6 (7)	48	48	D,C,F,N,V	FDA	Home (D)
S. berta	6-10	Red Bluff, Calif.	maple bars & cream filled horns	+	+	-	186 (225)	12	120	N,V,D,F,C	DH	Home (B)
S. san diego	6-12	Kalamazoo, Mich.		+	-	-	6 (205)	24	24	D,N,C,F	DH	Private club (D)
S. typhi-murium and S. thompson	9-11-70	Tunkhannock, Pa.		+	-	+	2 (13)	24	6 dy	N,V,F,D,C	DH	Hotel (D)
S. enteritidis	12-21	Waynesboro, Pa.	lemon cell	+	-	-	10 (20)	58	72	D,V,C,D,F	DH	Home (C)
S. braenderup	12-25-70	Kunkleton, Pa.	turkey	+	-	-	14 (16)	9	14	N,V,C,D,F	DH	Home (C)
S. heidelberg	12-25-70	McNairy Co., Tenn.	barbecue	+	-	-	9 (15)	26	72	D,N,V,F,C	DH	Home (B)
SHIGELLA												
S. sonnei	1-16	Kahului, Hawaii	poi	+	-	-	131 (800)	24		D,F,C	DH	Picnic (D)
S. flexneri	2-6	Minneapolis, Minn.		+	-	-	112 (165)	48	72	D,C,F,N,V	DH	Mexican (D) restaurant
S. sonnei	5-12	Turkey Creek, Fla.	turkey salad	+	-	+	440 (667)	24	56	N,V,C,D,F,H	DH	School (B)
S. sonnei	12-25-70	Kona, Hawaii		+	-	-	21 (56)			D,F,C	DH	Luau (D)

STAPHYLOCOCCUS

<u>S. aureus</u>	1-7	Seattle, Wash.	pork fried rice	-	+	-	3 (400)	3	12	N, V, C, D	DH	Home (B)
<u>S. aureus</u>	1-20	Little Rock, Ark.	beef cubes	-	+	+	26	2	12	N, D, V, C	DH	Hospital (B)
<u>S. aureus</u>	2-3	Mundelin, Ill.		+	+	-	73 (128)	3	24	N, D, V, C, F	DH	Mental Insti- tution (B)
<u>S. aureus</u>	2-26	Santa Fe, N.M.	spaghetti	+	+	+	169 (295)	2	6	N, V, D, C	DH	School (B)
<u>S. aureus</u>	3-21	Lewisport, Ky.	ham	+	+	+	168 (350)	4	26	N, V, D, C	DH	Community center (B)
<u>S. aureus</u>	3-25	Oklahoma City, Okla.	ham	+	+	+	6 (4)	5	10	N, V, D, C	DH	Restaurant (B)
<u>S. aureus</u>	3-27	Montgomery, Ala.	ham	-	+	+	4 (4)	4	24	N, V, D	USDA	Restaurant (B)
<u>S. aureus</u>	4-12	Detroit, Mich.	ham	+	-	-	10 (10)	3	5	N, V, D	DH	Home (C)
<u>S. aureus</u>	4-12	Cherry Hill, N.J.	gefilte fish	-	+	-	8 (8)	3	48	N, V, C	DH	Home (C)
<u>S. aureus</u>	4-20	Carrollton, Ga.	egg salad	-	+	-	2 (2)	6	12	N, V, C, D	DH	Home (C)
<u>S. aureus</u>	5-10	Denver, Col.	Genoa Salami	-	+	-	1 (1)	3	72	N, V, D, C	USDA	Home (A)
<u>S. aureus</u>	5-26	Logan, Utah	barbecued chicken	-	+	-	16 (60)	6	24	N, V, C, D	DH	School (B)
<u>S. aureus</u>	6-5	Ludlow, Mass.	turkey, beef, rabbit	-	+	-	160 (?)	5	12	N, V, C	FDA	Church (C)
<u>S. aureus</u>	6-8	Seattle, Wash.	sliced ham	+	+	-	? (3)	4	4	N, V, C, D	DH	Home (D)
<u>S. aureus</u>	6-16	Bellingham, Wash.	salami	-	+	-	5 (6)	3	10	N, V	DH	Picnic (A)
<u>S. aureus</u>	6-19	Clovis, N.M.	potato salad	+	+	+	96 (150)	3	24	N, V, C, D	DH	Home (C)
<u>S. aureus</u>	6-23	Des Moines, Iowa	ham	-	+	-	5 (8)	3	10	N, V, C, D	DH	Boarding home (d)
<u>S. aureus</u>	?	Alaska					4 (4)	4	12		USDA	Restaurant (A)
<u>S. aureus</u>	6-3, 6-11, 6-23	San Jose, Calif.	sliced ham	-	+	+	4	5	10	N, V, C, D	DH	Delicatessen (B)

ETIOLOGY	ONSET	REPORTED FROM	VEHICLE	LAB DATA			CLINICAL DATA			REPORTER	COMMENT	
				P.	V.	H.	# ill (at risk)	incub. period (hrs.)	Duration of dis. (hrs.)			
												Symptoms
<u>S. aureus</u>	10-20-70	Honolulu, Hawaii	rice wrapped in seaweed	-	+	-	4 (6)	5		N, V, D	DH	Home (D)
<u>S. aureus</u>	10-27-70	Millilani, Hawaii	pork	+	+	-	3 (3)	3	24	N, V, C, D	DH	Home (B)
prob. staph.	1-16	New York City	?ice cream	-	+	-	3 (3)	4	120	N, V, C, D	DH	Restaurant (B)
prob. staph.	1-17	Spokane, Wash.	salad dressing	-	-	-	3 (8)	4	24	N, V, C, D, H	DH	Restaurant (D)
*prob. staph.	1-17	Santurce, P.R.	macaroni salad	-	+	-	49 (68)	3	36	V, C, D	DH	Church (D) Enterococci & coliforms also isolated from food
prob. staph	2-19	Mundelein, Ill.		+	-	-	15 (128)	3	8	N, V, D	DH	Mental Insti- tution (D)
prob. staph.	2-23	Hoquiam, Wash.	crab cocktail?	-	-	-	2 (2)	6	15	N, C	DH	Restaurant (D)
prob. staph.	3-1	Mesilla, N.M.	pork chops	-	-	-	9 (9)	4	12	N, V, C, D	DH	Home (C)
prob. staph.	3-30	Otis Orchards, Wash.	salmon	-	-	-	9 (9)	5	24	N, V, C, D	DH	Home (D)
prob. staph.	4-22	Okanogan, Wash.	chicken soup	-	+	-	1 (1)	2		N, V, C	DH	Home (C)
prob. staph.	4-23	Maite, Guam		-	-	+	5 (25 estimated)	4	2	N, V, C, F	DH	Luncheon counter (D)
*prob. staph.	4-25	Carney's Point, N.J.	chicken pot pie	-	+	-	76 (150)	5	10	N, V, D	DH	Church (C) C. perfringens also isolated from food
prob. staph.	5-2	Yakima, Wash.	ham	-	-	-	5 (6)	5	10	N, V, D, H	DH	Home (C)
prob. staph.	5-8	Lacey, Wash.	hamburger meat	-	-	-	3 (3)	4	8	D, N, V, C	DH	Restaurant (D)
prob. staph.	5-18	Agana, Guam	potato salad?	-	-	-	7 (30 estimated)	4	6	N, V, D, C	DH	Restaurant (B)

prob. staph.	5-20	Kenosha, Wisc.	salami	-	+	-	3(?)		DH	Home (A)
prob. staph.	5-23	Big Basin, Calif.	hamburger	-	+	-	4(6)	3	DH	Picnic (C)
prob. staph.	6-1	Bloomfield, Mich.	chicken salad	-	+	-	50(59)	3	DH	Church (C)
prob. staph.	6-23	Des Moines, Iowa	ham	-	+	-	5(8)	2	DH	Other (D)
prob. staph.	6-15	Chicago, Ill.	Genoa salami	-	+	-	3(?)	3	DH	Home (A)
prob. staph.	6-16	Oceanport, N.J.	chicken chow mein	-	-	-	120(200)	3	DH	Restaurant (B)
prob. staph.	6-19	Marsteller, Pa.		-	-	-	48(250)	3	DH	Wedding (D) reception
prob. staph.	6-20	Marquette, Mich.	ham	-	+	+	2(27)	3	DH	Restaurant (D)
prob. staph.	6-22	Orocovis, P.R.	stew	-	+	-	16(?)	3	DH	Kiosk (D)
prob. staph.	6-24	Everett, Wash.	turkey broth	-	-	-	2(3)	5	DH	Home (C)
prob. staph.	6-26	Reading, Pa.	ham	-	+	-	40(90)	3	DH	Home (B)
prob. staph.	10-7-70	Scofield Barracks, Hawaii	spam	-	+	-	3(3)	3	DH	Home (C)
prob. staph.	12-17-70	Cleveland, Ohio	ham	-	+	-	(3)	2	DH	Restaurant (B)
prob. staph.		Alaska	ham?	-	+	+	4(4)	4	USDA	Restaurant (B)
<u>STREPTOCOCCUS</u>										
Group A streptococcus	10-20-70	Honolulu, Hawaii	?butter	+	-	-	498(998)	24	DH	School (D)
Group D streptococcus (possible enterococci)	1-28	Kenosha, Wisc.	beef pasties	-	+	-	3(?)	3	DH	Home (D)



ETIOLOGY	ONSET	REPORTED FROM	VEHICLE	LAB DATA			CLINICAL DATA			REPORTER	COMMENT
				P.	V.	H.	# ill (at risk)	incub. period (hrs.)	Duration of dis. (hrs.)		
<u>CHEMICAL</u>											
monosodium glutamate	3-20	Mountain View, Calif.	Chinese food	-	-	-	7 (13)	15 min.	30 min.	DH	N,H,flushing, chest pain Restaurant (B)
scombroid fish poisoning	2-6	California	fish	-	-	-	28 (32)	2		DH	D,V,pruritis, rash, perior- bital edema Ship (B)
scombroid fish poisoning	6-7	Palm Beach, Fla.	black fin tuna	-	-	-	7 (9)	30 min.	6	FDA	N,V,D,hives Home (D)
cadmium	4-28	Renton, Wash.	candy love beads	-	+	-	3 (3)	1	3	DH	N,V,C,D Home (A)
cadmium	5-1	San Jose, Calif.	candy love beads	-	-	-	2 (2)	2	1	DH	C,V,N Home (A)
cadmium	5-2	Kent, Wash.	candy love beads	-	-	-	2 (2)	30 min.	2	DH	N,V,C Home (A)
cadmium	5-5	Renton, Wash.	candy love beads	-	-	-	2 (3)	1	3	DH	N,V,C Home (A)
cadmium	5-5	Kauai, Hawaii	candy love beads	-	-	-	3 (3)	1	3	DH	N,V,C,F Home (A)
cadmium	5-6	Port Townsend, Wash.	candy love beads	-	-	-	1 (1)	30 min.	12	DH	C, drowsiness Home (A)
copper	2-25	San Jose, Calif.	back up of water & soft drink into copper tubing	-	-	-	2	10 min.		DH	Restaurant (D)
copper	6-19	Burlington, Vt.	punch	-	+	-	11 (20)	10 min.	24	DH	N,V Private party (B)
nicotinic acid	4-20	Wilson, N.C.	pie crust	-	+	-	61 (124)	1	3	DH	flushing, tingling, hyper- tension Hospital (A)
petroleum in milk	1-13	Seattle, Wash.	milk	-	-	-	1 (2)		24	DH	C, dizziness, blurred vision, back pain Home (A)

prob. chemical	1-15	Greenville, S.C.	-	-	-	3 (3)	10 min.	4	V,C,D, prostration	FDA	Home (A)
prob. chemical	1-16	Pittsburg, Pa.	-	-	-	10 (14)	2	24	N,C,F	FDA	Home (D)
prob. chemical	1-17	Bayonne, N.J.	-	-	-	4 (4)	1	8	H, dizziness	FDA	Office (D)
prob. chemical	3-?	Ellensburg, Wash.	-	-	-	2 (2)	2	5	N,V,C,D	DH	Home (A)
prob. chemical	5-14	San Jose, Calif.	-	-	-	2	20 min.	3	N,V	DH	Delicatessen (B)
<u>UNKNOWN</u>	12-22-70	Atlanta, Ga.	-	-	-	6 (6)	14	24	N,V,C,D,F	FDA	Home (D)
	12-25-70	McNairy Co, Tenn.	-	-	-	7 (12)	29	120	N,V,D,C,F	DH	Home (C)
	12-25-70	Chattanooga, Tenn.	-	-	-	14 (17)	32	48	N,V,D	DH	Home (C)
	12-28-70	Los Angeles, Calif.	-	-	-	2 (2)	12	6	N,V	FDA	Home (D)
	12-28-70	New York City	-	-	-	4 (4)	10	20	D,N,C	DH	Restaurant (D)
	1-3		-	-	-	2 (2)				DH	Restaurant
	1-3	Camden, S.C.	-	-	-	6 (9)	7	36	N,V,C,D	DH	Restaurant (D)
	1-4	Jackson, Mich.	-	-	-	5 (5)	4	24	N,V,C,D	DH	Restaurant (D)
	1-7	New York City	-	-	-	5 (5)	23	24	N,V,C,D	DH	Home (D)
	1-11	Alvin, Tex.	-	-	-	3 (3)	3	24		FDA	Home (D)
	1-15	Greer, S.C.	-	-	-	3 (3)	30 min.	6	N,V,D,C	DH	Home (D)
	1-15	Kansas City, Mo.	-	-	-	36 (36)	12		D,C,V,F	DH	Restaurant (D)
	1-23	New York City	-	-	-	6	4	4	N,V,C,D	DH	Restaurant (D)

ETIOLOGY	ONSET	REPORTED FROM	VEHICLE	CLINICAL DATA						REPORTER	COMMENT	
				P.	V.	H.	# ill (at risk)	incub. period (hrs.)	Duration of dis. (hrs.)			Symptoms
	1-26	Seattle, Wash.	roast beef sandwich	-	-	-	2(2)	6	24	N,V,C,D	DH	Restaurant (D)
	2-1	Spokane, Wash.	spare ribs	-	-	-	4(7)	12	48	N,V,C,D,F	DH	Home (D)
	2-9	Pullman, Wash.		-	-	-	9(44)	3	21	N,V,C,D,F	DH	School (D)
	2-14	McPherson, Kan.		-	-	-	183(300)	7	24	N,V,D,F	DH	School (D)
	2-16	Miami, Fla.		-	-	-	4(4)	4	24	N,V,C,D,F	FDA	Home (D)
	3-1	Las Vegas, Nev.	candy bar	-	-	-	54(54)				FDA	AFB (D)
	3-9	Callao, Va.		-	-	-	3(4)	2	48	D,C	DH	Restaurant (D)
	3-10	Spartanburg, S.C.		-	-	-	2(2)	10		D,N,V	DH	Restaurant (D)
	3-20	Flemington, N.J.	potato salad	-	-	-	56(130)	36	60	D,V,C,N	DH	Caterer (D)
	3-20	New York City		-	-	-	8(12)	12	72	N,V,D,C,F	DH	Restaurant (D)
	3-22	New York City	pork chow mein	-	-	-	9(85)	12	12	C,D,N	DH	School (D)
	3-28	Des Moines, Iowa		-	-	-	55(85)	12	24	N,V,C,D,H	DH	Restaurant (D)
	4-13	Seattle, Wash.	burritos	-	-	-	6(6)	6	29	N,V,C,D	DH	Restaurant (B)
	4-18	Mountain View, Calif.	turkey or shrimp	-	-	-	3(4)	4	24	N,V,C	DH	Home (D)
	4-27	Bakersfield, Calif.		-	-	-	1(2)	30 min.	7	N,V,D,C	DH	Restaurant (D)
	4-28	Langdale, Ala.		-	-	-	61(287)		24	N,D,V,F,H	DH	Other (D)
	4-28	Atlanta, Ga.		-	-	-	4(4)	28	24	N,V,C,D	DH	Restaurant (D)
	4-29	Sunnyvale, Calif.	soybean cake	-	-	-	3(3)			N,C,D	DH	Home (D)

5-3	Selah, Wash.	bologna?	-	-	-	7(17)	12	18	N,C,D,F	DH	Picnic (D)
5-6	Oak Harbor, Wash.		-	-	-	5(5)	8	1	N,V,C	DH	Restaurant (D)
5-19	Eden Prairie, Minn.		-	-	-	4(5)	10		N,V,C,D	FDA	Home (D)
5-20	Lakewood, Wash.	mixed meat sandwich	-	-	-	10(77)	3	12	D,N,V,C	DH	Restaurant (C)
5-25	Smithville, N.J.		-	-	-	20(31)	20	30	N,V,C,D,F	DH	Restaurant (D)
5-23	Olympia, Wash.	corn?	-	-	-	12(12)	1	24	N,V,C,D	DH	Home (D)
6-9	Pontiac, Mich.	Genoa salami	-	+	-	5	5	5	N,V,C,D,F	DH	Restaurant (A)
6-9	New York City	shrimp, fried rice	-	-	-	6(6)	2	4	N,V,D	DH	Restaurant (D)
6-13	Hartford, Conn.		-	-	-	20(100)	30	36	V,C,D,N	DH	Restaurant (D)
6-14	Columbia, S.C.		-	-	-	2(2)	3		N,C,D	DH	Home (D)
6-15	Seattle, Wash.	canned beef stew	-	-	-	1(1)	1	24	N,V,C,D	DH	Lunch room defective can (D)
?	Hawaii	tuna	-	-	-	3(3)	3	12	N,V	FDA	Home (D)

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